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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/681,268   | 03/12/2001  | Henry P. Ngai        | HN-4                | 8554             |
| 23933  | 7590        | 08/25/2004           | EXAMINER            |                  |
| STUART T AUVINEN<br>429 26TH AVENUE<br>SANTA CRUZ, CA 95062-5319 |             |                      | LEVITAN, DMITRY     |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2662                |                  |

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/681,268

Applicant(s)

NGAI, HENRY P.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-20 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

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***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merchant (US 6,546,010) in view of admitted prior art (paragraph 0004 of the specification).

Regarding claim 1, Merchant substantially teaches the limitations of claim 1.

A bus based network switch (Fig. 5 and 9:44-54) comprising:

A plurality of switch nodes (multiport switches 12 a, b and c on Fig. 5 and 9:51-53), each node for receiving a data payload from an input port or for transmitting a data payload to an external network device through an output port (bi-directional ports 20 and 24 for switches 12 on Fig. 1 and 4:13-20);

A first bus for sending switch packets with the data payload in a first direction among the plurality of nodes, the first bus being divided into links, each link for transferring a switch packet between two of the nodes (expansion bus 37, divided into links connecting switches 12 a, b and c on Fig. 5 and 10:6-12);

Wherein the nodes are arranged in a loop wherein a destination node can be reached from any other of the nodes (all nodes have frame forwarding logic that can forward frames to any other node 9:63-66); and

A packet limiter that limits a number of the nodes that the packet travels through from a source node that receives the data payload to the destination node that transmits the payload to

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the output port (EMB\_DEV\_ID embedded into frame, step 305 on Fig. 6 and 10:43-54 and step 311 limiting in YES condition the frame circulation 11:8-24);

Wherein the packet limiter limits the number of nodes to less than a total number of the nodes (the frame traveled through nodes 12b and 12c, but was not returned to the originating node 12a, so the frame traveled through only two nodes out of three node system 11:19-24),

Whereby the switch packet travels through a limited number of nodes (the system ceases circulating the frame step END CASCADE 315 on Fig. 6).

Merchant does not teach a second bus for sending switch packets divided into links, each link for transferring switch packets between the nodes.

Admitted prior art teaches a second bus for sending switch packets divided into links, each link for transferring switch packets between the nodes (FDDI system on paragraph 0004).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a second bus to the system of Merchant, as suggested by the admitted prior art, to improve the system reliability, utilizing the second bus if the first bus fails.

***Allowable Subject Matter***

2. Claims 13-20 are allowed.
3. Claims 2-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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*Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yang            US005257264A        Automatically deactivated no-owner frame removal  
mechanism for token ring networks.

McHarg        US004780870        Packet switch.

Erimli        US006760341B1       Segmentation of buffer memories for shared frame data  
storage.

Brewer        US006330245B1       Hub system with ring arbitration.

Frank        US005119481A        Register bus multiprocessor system with shift.

Lam            US006553027B1        Apparatus and method for cascading multiple network  
switch devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is 703-305-4384. The examiner can normally be reached on 8:30 to 4:30.

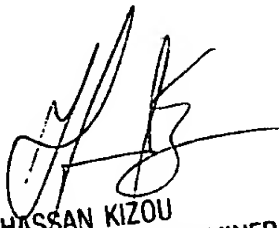
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL

Dmitry Levitan  
Patent Examiner.  
07/27/04.

  
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